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MAY, 1944

Sweet Clover Silage

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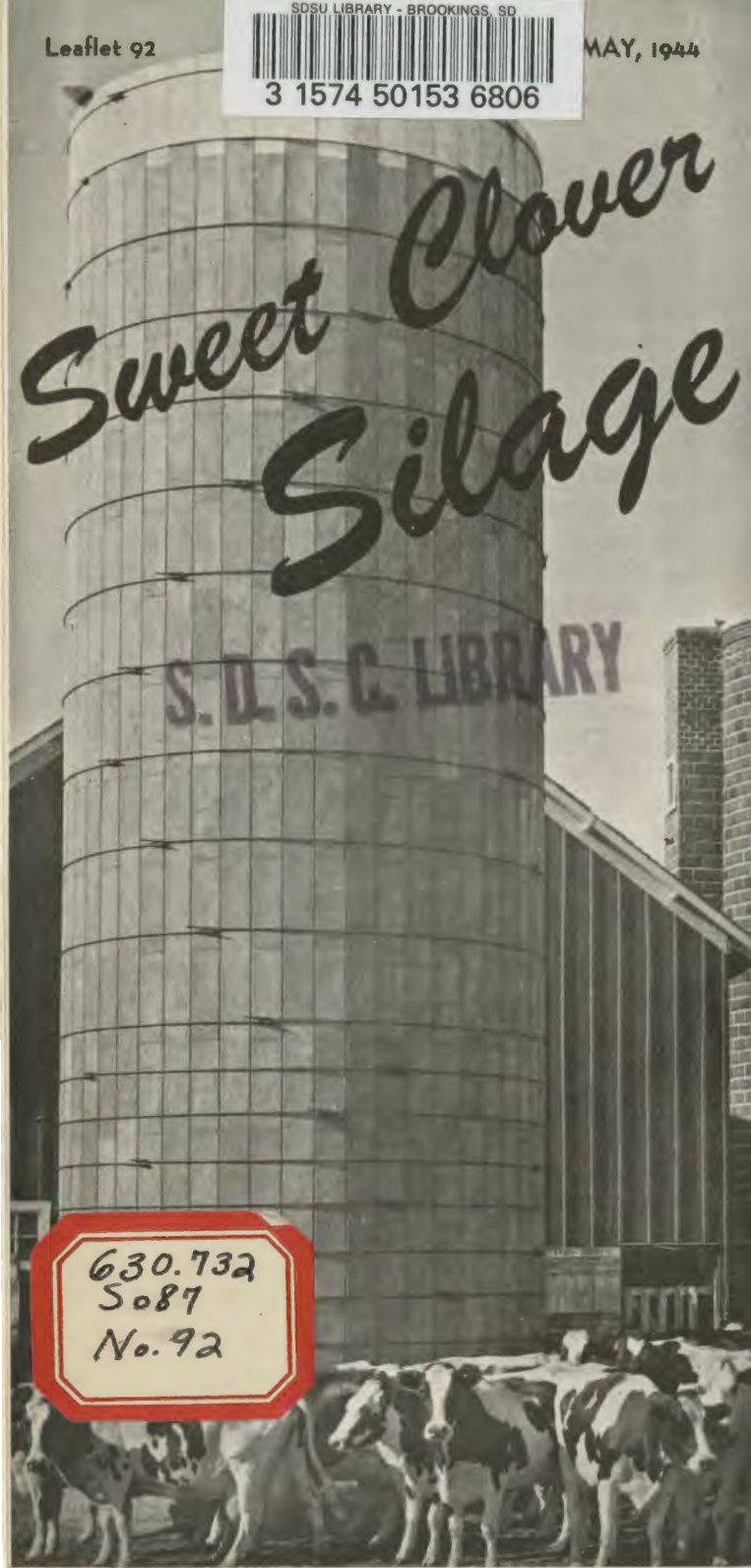

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AGRICULTURAL EXTENSION SERVICE
South Dakota State College ✣ Brookings
U. S. Department of Agriculture

Sweet Clover Silage

R. A. Cave*

Sweet clover is grown in large amounts in the eastern part of South Dakota, but much of the food value for livestock is lost because of the difficulty in making good quality hay from it.

The purpose of this circular is to suggest that if more of the sweet clover could be made into silage, a great amount of high quality livestock feed, now largely wasted, could be saved.

Livestock numbers have been increasing throughout the nation, but feed supplies are less than last year. The need for utilizing every source of livestock feed is unquestioned.

Morrison's "Feeds and Feeding" gives the food value of sweet clover silage when wilted before ensiling as: Digestible protein, 4.9 per cent; total digestible nutrients, 23 per cent; as compared with 1.3 per cent protein and 18.7 per cent total disgestible nutrients in good corn silage.

Farmers' Experience

Sweet clover is not commonly used for silage in South Dakota, but those who have tried it speak well of it.

Victor Johnson of Altamont, who owned a high producing Holstein herd, filled his silo with sweet clover in 1942 and said it made excellent silage. He used "silo germ" as preservative. He cut the clover in early bloom with a binder and no twine and said it was easier to handle than hay.

George Moxon of Brookings filled his silo last July when the sweet clover was about four feet high. He reports that his cows did well on it. A sample was analyzed at State College and showed the following results: Moisture, 68.3 per cent; total crude protein, 5.04 per cent.

Allen Gewecke of Jasper, Minnesota, reports that he has used sweet clover silage for his large dairy herd

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for three years and considers it better than corn silage for milk production. He cuts it with a mower when in bloom, lets it wilt slightly and mixes ground ear corn with it for a preservative. He says that he has no more spoilage than with corn silage. He feeds alfalfa hay and ground corn with no protein concentrate. If his pastures dry up; he uses it in the summer. When there is plenty of moisture, he plows the ground after filling the silo and puts in some other crop. The heaviest yield Mr. Gewecke got was nine tons per acre.

Reports From Other States

Iowa reports that some of its dairymen have been putting up sweet clover silage for the past ten or twelve years. They consider it somewhat lower in feeding value and not as palatable as corn silage. They prefer to cut it when in full bloom. Some use preservatives, such as molasses or corn-and-cob meal, and some do not. They feel that a little wilting in the field is desirable in order to prevent seepage.

Minnesota reports that many dairymen in the western part of the state make sweet clover silage. They recommend that the sweet clover be cut just before it blooms and that molasses or ground grain be used as preservative. When the crop is quite tall, they have found that cutting with a grain binder makes it easier to handle.

Many of their farmers have put up sweet clover silage in snow fence cribs, and, though there was some spoilage around the outside, it made a fairly good cheap type feed.

Dr. G. Bohstedt of the Wisconsin Experiment Station recommends that the sweet clover be cut in the early bloom stage and allowed to wilt two or three hours in the swath. He cautions against too much wilting, as it is likely to go into the silo too dry causing heating and mustiness. In this case, there might be some danger of sweet clover disease from the ensilage. Dr. Bohstedt regards the addition of 150 to 200 pounds of corn-and-cob meal, or other ground grain, to each ton of the silage as desirable, although he states that reasonably good silage can be made by wilting and without preservatives, if it is well distributed and tramped in the silo.

T. E. Woodward of the Bureau of Dairy Industry states that in his opinion sweet clover for silage should be cut before the full bloom stage, allowed to wilt enough to avoid leakage of the juice and chopped finely.

The South Dakota Experiment Station is now conducting a feeding trial to determine the value of sweet clover silage as compared to corn silage for fattening steers.

Should Sweet Clover Be Ensiled?

Sweet clover is a valuable crop in the rotation since it supplies nitrogen and organic matter to the soil. It will probably continue to be grown for that purpose. Before deciding whether it should be put into the silo, each operator should consider carefully the advantages under his own conditions.

Advantages

1. Enables the operator to get the full feed value of the crop regardless of the weather.
2. Avoids the loss of much of the food nutrients, as compared to curing it for hay.
3. Permits the storage of a large volume of nutritious feed high in protein and vitamin A.
4. Provides green feed which can be used if pastures are short.
5. Supplies more protein than corn silage and can be fed to better advantage with low-protein roughage.
6. Replaces a large amount of corn which can be harvested for grain.

Disadvantages

1. Has to be put into the silo at a time of year when other farm work is very pressing.
2. Is heavy to handle and requires caution to prevent overloading and breakage in regular hay making equipment.
3. Cows do not like it as well as corn silage, but will usually eat as much as would ordinarily be fed.
4. Requires somewhat more careful judgment in determining the proper moisture content in order to have good silage.

Dairymen Who Have Tried Sweet Clover Silage Say:

"Better than corn silage for milk production."

"Excellent silage."

"Cows did well on it."

Conclusions

The sweet clover crop is a great potential source of livestock feed. Much of the food value is lost when it is made into hay or allowed to stand in the field. This loss can be avoided by making it into silage.

Summarizing the rather limited experience of farmers and experiment stations in this and other states the following recommendations are indicated:

1. It should be cut for silage in the early bloom stage.
2. If very succulent or sappy, it is desirable to allow it to wilt before it is put into the silo, in order to prevent seepage or leakage of juice.
3. It had better be ensiled a little too green than too dry.
4. Corn-and-cob meal at the rate of 150 to 200 pounds per ton, or Black Strap molasses, 75 pounds per ton, will improve the palatability and perhaps the keeping qualities.
5. It should be cut fine, one-fourth inch if possible, and tramped well.
6. The silo should be topped out with two or three feet of very green, succulent sweet clover or weeds that have not been wilted.
7. After filling, it should be tramped several times to prevent it shrinking away from the silo wall, and allowing the air to enter.
8. Some silos may have to be reinforced at the bottom as the pressure is greater than with corn silage.

More Livestock And Less Feed?

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Making Sweet Clover Into Silage Will Save a High Quality Livestock Feed

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